BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

DISORDERS OF SLEEP IN CHILDREN

I. ETIOLOGY AND TREATMENT

OSCAR REISS, M. D. (1930 Wilshire Boulevard, Los Angeles).—The causes of disturbances of sleep in children are multitudinous; and since in most instances the treatment of these disturbances consists in removal of the cause, one cannot well attempt a discussion of treatment without at least briefly reviewing etiologic factors. And inasmuch as the scope of this paper does not permit of an extensive treatise, I will not attempt to do much more than classify in outline the various factors causing sleeplessness in children.

1. *Constitutional Neuropathy.*—Under this heading may be grouped those infants and children who have great difficulty in relaxing while awake, who do not fall asleep easily, who toss around considerably after falling asleep, and who are easily aroused by even trivial environmental stimuli. They manifest a tendency to tetany, spasmophilia and rickets, and the accompanying calcium deficiency, and are easily thrown into convulsions.

The treatment for this group consists in active calcium therapy to the point of establishing the necessary balance. At the same time attention should be given to the establishment of an environment free from disturbing factors.

2. *Sleep Disturbances Accompanying Disease.* One might include in this category practically the entire list of diseases with which children become afflicted, since each one of them may produce interference with sleep. Painful conditions should be considered first. Otitis media, especially in infancy, may show no other symptoms than fever and disturbed sleep, restlessness and wakefulness being the result of earache, which the little one cannot localize. The sleep of infants is also commonly disturbed by the pain of colic and intestinal disturbances, by hunger, by teething, and also because of eczema or furunculosis. In older children, renal colic, rheumatic fever, and the cardiopathies are potent disturbers of sleep.

Respiratory difficulties, whether due to nasal obstruction with consequent mouth breathing, or to the dyspnea of asthma, or to bronchial irritation of pneumonia or whooping-cough, with frequent coughing spells, mitigate against undisturbed sleep.

The ushering in of nearly all of the infectious diseases of childhood is usually evidenced by disturbed sleep, as one of the initial symptoms.

For those conditions where pain is interfering with sleep, the removal of the cause of the pain or discomfort is of primary importance; the child so often falls asleep immediately following paracentesis of a bulging eardrum. Often narcotics are necessary, codein being very effective. In the management of any of the above-mentioned conditions, attention to the comfort of the patient is important and conducive to sleep. Tepid baths in febrile conditions, and antipyretics in prolonged fever are helpful. The barbiturates may be given freely, especially when there is considerable restlessness.

3. *Faulty Physical Hygiene.*—The character of environmental conditions conducive to sleep seems to be well-known to physicians and to many laymen; nevertheless, one observes so many infractions of the rules of hygiene that it may not be amiss to mention the most flagrant ones. Troubled sleep or failure to fall asleep may be due to uncomfortable clothing, tight clothing, too many clothes, too much covering, and pressure of safety-pins. It may be due to an overheated bedroom, or one that is too cold, or to the lack of quiet and darkness. Some infants with very sensitive skin cannot sleep in a soiled or wet diaper. Quite obviously, the treatment must be directed toward the education of the parents in rules of hygiene. Too much stress cannot be laid on the desirability of having each child in a room by itself (certainly in its own bed), the room to be well ventilated and dark when the child is put to sleep, his night clothes to be light and comfortable, and the bed covers to be light in weight and sufficient in amount to meet the varying climatic conditions.

4. *Faulty Mental Hygiene.*—Under this grouping we shall list various forms of faulty management of children, which tend to upset them mentally or emotionally to the point of interfering with restful sleep.

In infancy, faulty sleeping habits are easily established and difficult to overcome. They should never be allowed to develop. The most common faults are overanxiety on the part of the mother, which results in the baby being picked up constantly on his slightest outcry. Often a pacifier is introduced, either into the mouth in the form of a nipple, or as a comforting plaything like a favorite toy animal or doll or a little quilt. Or perchance there may be a grandmother or an old family nurse to rock the baby to sleep. The eventual breaking of these habits always means a period of great strain for the child, the family, and the doctor.

To insure normal, peaceful sleep for children beyond the stage of infancy requires a thoughtful viewpoint on the part of the parents, and an understanding of the nature of each individual child.

Unfortunately many parents are completely ignorant of the fact that the emotional experiences and mental perplexities that befall a child during the day may have an untoward effect upon its ability to fall into peaceful slumber. Over-

stimulation, as represented by a too ambitious school program, too many extracurricula activities (dancing, music lessons, etc.), premature and untimely participation in social affairs and pleasures of the adult, unsuitable movies and radio programs, are not conducive to restful sleep. Nor is unreasonable or unjust discipline, which is often imposed by a parent who has undergone some vexatious experience, and is "taking it out" on the child. The child of sensitive nature is especially upset by such treatment.

Emotional shocks, such as are often produced by fright or the witnessing of some gruesome spectacle, are often the basis for some of the more serious disorders of sleep, such as night terrors. Many other factors could be recounted, but those mentioned above should suffice to emphasize the damaging effect of mismanagement.

Treatment

Treatment for the relief of disturbances of sleep caused by faulty mental hygiene obviously must be directed at the parents, who are usually directly or indirectly responsible. The therapy is educational in nature. One must patiently and painstakingly point out how in each instance the particular form of mismanagement has been responsible for the problem that has arisen, and that its cure can be brought about, not by the administration of drugs, but only by the institution of a thoughtful and intelligent program for the child.

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II. FATIGUE AS A CAUSE OF SLEEPLESSNESS

HENRY E. STAFFORD, M.D. (242 Moss Avenue, Oakland).—Fatigue is the most common cause of a disturbed sleep pattern in childhood. It is well said that the tired child is the one who does not sleep; not the one who is getting too much rest. Sleeplessness and fatigue too often form a vicious cycle. The tired, irritable child with diminished appetite loses his ability to take advantage of an adequate amount of rest; insufficient sleep in turn results in fatigue. Superficially there would seem to be little difficulty in solving the problem by placing a child at rest for a sufficient length of time. Practically this is at best only a temporary expedient. Fatigue, as well as sleeplessness, is only a symptom. It is illogical to attempt the explanation of one symptom in terms of another. Until we have determined the cause of fatigue and corrected it, our problem remains unsolved. Consequently, any discussion of sleeplessness in childhood must be based upon an analysis of the underlying factors which produced fatigue.

A faulty sleep pattern may be established early in life through faulty habit formation. The growing infant needs regularity. The irregularity of, or variation in the length of rest period promptly becomes a habit, and the loss of much needed rest ultimately results in fatigue. In this way the first link in the vicious cycle may be welded in the first few months of life. When the child grows older, objections to the afternoon nap are invariably raised too early in every household. There is no way to make a child sleep, but no rapidly growing individual should be excused from a mid-afternoon rest until the age of five, and longer in some children who tire easily. Such insistence is not often easy, but it may mean the difference between an irritable, restless child, and the one who lives a well-ordered happy life. Closely allied with the tendency to early elimination of the nap time, is the postponement of bed time at night. The late hour of a father's homecoming is often responsible. His desire to see and play with the small offspring too often forms the necessary wedge for the delayed bed time. The one or more hours of needed rest are not made up in the morning; the time of arising for the child remains unchanged. Valuable rest is lost.

Selection of the place for sleep is as important as regularity. In an effort to obtain "fresh air," many infants are put to rest on a noisy porch or in a glaring garden. In either surrounding, complete relaxation is impossible. An airy, darkened room furnishes sufficient ventilation and tends to promote rest of necessary duration. Many children are allowed to play in the bed or pen in which they take their nap or sleep at night. Any infant whose routine of living is not yet established is easily confused. Consequently, when he is put down to rest in surroundings associated in his mind with play, confusion results. More often than not, activity, either physical or mental, continues until sheer exhaustion drives him to sleep, and he slumps into some unnatural position to be found later uncovered and chilled. By the same token toys should never be placed in bed with a child. Too many covers, soft mattresses sloping to a hollow in the center of the bed, and pillows of all sizes and shapes play their part in disturbing the rest of the small infant and the runabout child. Too commonly parents will finally confess that their child is taken to bed with some older member of the household. This usually occurs toward morning, and often begins quite innocently during an illness or following some unusual event in the home. But it need happen only once or twice, and the child automatically awakens in order to move into another bed. In the same way habitual thumb suckers or blanket twisters arouse for varying lengths of time to practice their individual habit. Such incidents of mismanaged routine may seem trivial and even ridiculous. However, they are means of interfering with satisfactory rest; and so lead to fatigue and ultimately to sleeplessness.

Infections play an equally major rôle in the production of fatigue. A child competently supervised is kept in bed following an acute infection until all signs of fatigue have disappeared. Less commonly is it realized that there may be a connection between a chronic focus of infection and disturbed rest. Diseased tonsils and adenoids, infected sinuses, the invasion of the urinary tract by colon bacilli, enlargement of the hilum lymph nodes, tubercular or nonspecific thickening of the lung parenchyma result in symptoms similar to those of overexertion. Consequently the control of such chronic infections transforms the whiny, overexcited, restless child into a quiet, contented

individual with a normal sleep pattern. It is very difficult for many parents to realize that there may be a connection between infection and sleeplessness.

Associated with, and often combined with infection are allergic phenomena. Hypersensitiveness to any allergen may produce fatigue and, consequently, sleeplessness in one of two ways. First, the mechanical blocking of the upper respiratory passages by the boggy, swollen mucous membrane of allergic rhinitis may awaken a child because of the resultant difficulty in breathing. Secondly, some of the less evident phases of increased sensitivity as, for example, the abdominal allergies may produce a sufficient amount of discomfort to interfere with rest. Reactions bordering on the spectacular result in some children when an offending protein is removed from their diet, or an irritating inhalant is eliminated from their surroundings and disturbed rest is replaced by complete relaxation.

Certain tired, sleepless children are described as "nervous" by parents, teachers, and nurses. The term itself is inadequate and inaccurate, largely because it connotes an inability of understanding and control. In reality the whiny, incorrigible child, given to frequent tantrums, has as a physical basis a tired central nervous system from which originate incoördinated stimuli. Among the common and neglected causes of such fatigue are ocular refractive errors. It is a pertinent reason why every child should have a routine eye examination by a competent oculist at the beginning of school training. In no other way can any but the glaring errors in sight be discovered and corrected. The eradication of such defects tends to reduce fatigue, diminish overstimulation and, incidentally, sleeplessness.

Imbalance of the glands of internal secretion may play a part in the production of fatigue. Paramount among the better understood glandular conditions predisposing to fatigue is hyperthyroidism. It has become comparatively easy to diagnose the undernourished hyperactive individual with a high metabolic rate due to oversecretion of thyroid hormone. Many clinicians fail to realize that the same clinical picture, but with a low metabolic rate, is also found in hypothyroidism. Previous to the observations on skeletal development in relation to thyroid activity, it was impossible to differentiate between increased or diminished activity of the thyroid in children under the age of eight years. Aside from the difficulties incident to the actual tests, the normal standards of basal metabolic rates below this age are inaccurate. Undoubtedly, as we learn more concerning the interrelationships between other glands of internal secretion many of the problems now poorly understood will become clear-cut diagnoses.

Fatigue posture, exemplified by underdeveloped rhomboids, sway back, prominent abdomen and sagging head is usually effect rather than cause. Consequently, muscular training necessary to correct such posture is usually insufficient in itself to permanently diminish fatigue. Conversely, the elimination of the underlying factors of faulty posture without the training in proper muscular balance will leave the problem only half-solved.

To summarize: disturbed sleep is, as a rule, a symptom of fatigue which in turn is dependent on a variety of underlying causes. As such, sleeplessness becomes a real diagnostic problem. It cannot be solved by the simple expedient of placing the tired child at rest for a period of time. The solution only becomes clear following a complete history and physical examination fortified with indicated laboratory data. In no other way can the relative importance of chronic foci of infection, glandular imbalance, early habit formation, allergy and congenital somatic defects, such as optical refractive errors, be evaluated.

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III. SLEEP DISTURBANCES IN CHILDREN

GUY L. BLISS, M. D. (1723 East Third Street, Long Beach).—Every child inherits his own individual sleep pattern. This pattern is disturbed, and then only temporarily, by strong sensory impressions. In this discussion we are concerned only with the sleep disturbances of children who are both mentally and physically normal. During sleep the receptivity of the individual to sensory stimulation is greatly diminished, but motor activity continues in an apparently automatic manner. It is conceded that the depth of the sleep is inversely proportional to the amount of sleep movement; hence, any factor causing excessive movements during sleep leads to sleep disorder. While there are many factors causing sleep disorders in children, I wish to mention only four. In this we are offering nothing new. These simple, every-day factors which cause so much disturbance in our children at night are such common knowledge among pediatricians, we assume them to be common knowledge among the parents, and accordingly fail to emphasize them.

1. *Weather Temperatures on the Child.* — It matters not whether it is the high temperature of a torrid summer night, or a poorly ventilated room, or an artificially overheated room, or too many blankets on the bed, the end-results are the same. The child's motor activity is tremendously increased. He is continually thrashing and crawling out from under the bed covers, in spite of the many patented gadgets and paraphernalia to restrict him in the hot bed of discomfort. Parents are bound by the time-worn prejudices that a child might take cold if he is not covered heavily at night. The consensus of opinion, that no child gets sick or lowers its resistance by getting cold, is a fact which we often fail to make clear to the parents. The amount of heat and covers that any child needs is a very personal individual requirement. We should instruct the parents how to determine the amount of heat and covers best suited to the individual child.

2. *Heavy Meals.*—At night, within certain definite limits, it does not matter so much what kinds of foods are taken, but the size of the meal is very important. A heavy meal at night, in the majority of children, is prone to cause not only excessive

motor activity, but terrifying dreams, crying out in sleep, and a constant turning in bed. The habit of a heavy meal at noon and a light meal at night, just enough to meet the child's caloric requirements, will help to relieve one of the child's most common causes of sleep disorder.

3. *Bright Lights.* — How many times we are called to a home to see why Johnny will not take a nap. We find him in bed, in a room with a south or west exposure, with the window shades up and the curtains drawn aside to let in all the sun and light possible. The mother realizes the importance of sun and is too literal and enthusiastic in her attempt to give her boy both sunlight and a nap at the same time. A darkened room will give Johnny an autosuggestion of night, and he easily falls into a refreshing slumber.

4. *Noise.*—It is so silly that it seems asinine to mention, but legion are the mothers who expect Johnny to take a nap in a room where the blatant rasping voice of an advertiser rents the air, or they expect him to sleep in a room on the side of the home where a street-car squeals and rumbles by every ten minutes.

The above mentioned factors are some of those causing disorders of sleep, and have been common knowledge among all clinicians for years. Now the laboratory has come to our assistance and corroborated our observations with an electric recording device, called a hypnograph. Dr. Glenville Giddings, with the hypnograph, has shown that some of the factors mentioned causing excessive motor movement during sleep are positive influences in causing disorders of sleep in normal children.

The function of the pediatrician in preventive medicine is that of a teacher. Our problem is to overcome the ignorances, prejudices and superstitions of the average parent, and to convey to them practical ideas couched in sufficiently common horse sense to be within the mental grasp of all.

Optometry: Corporate Practice of Optometry Illegal in Arizona; Injunction to Restrain Practice.—The Funk Jewelry Company, a corporation, employed a licensed optometrist to examine eyes and to prescribe glasses. The state of Arizona, on the relation of the attorney general, instituted action to enjoin the corporation from practicing optometry. From an adverse judgment in the trial court, the corporation appealed to the Supreme Court of Arizona.

The optometry practice act, said the court, prescribes certain qualifications to be possessed by applicants for licenses to practice optometry. These qualifications necessarily exclude a corporation from practice. It cannot qualify. It does not possess the necessary moral and intellectual qualities. The corporation, therefore, when it employed a registered optometrist as a part of its business to examine eyes and to prescribe glasses, violated the optometry act. It was apparently contended, however, that even though the corporate practice of optometry was illegal, an injunction would not lie to restrain that practice. The optometry act, observed the court, prescribes no punishment for those who violate its provisions. Consequently, the ordinary criminal sanctions, such as fine and imprisonment, are not available to prevent continued violations of the act. Unless the writ of injunction is available, there is available no remedy to enforce the act. Furthermore, the court continued, while the civil process of injunction may not ordinarily be used to prohibit persons from committing a crime, where the crime is a public nuisance or affects the interests of the state, injunctions will lie. *State* v. *Smith* (Ariz.), 29 P. (2d) 718, 31 P. (2d) 102, 92 A. L. R. 168. The tendency is to grant injunctions to prevent unlicensed persons from practicing the professions. If the present action, said the court, had been brought by the state board of optometry or by members of the optometry profession, there would be no question of their right to maintain the action, in view of the trend of judicial opinion. The present action, however, was brought by the state, on the relation of the attorney general. The optometry act, continued the court, was passed for the general welfare of the people of the state. Its purpose is to protect the health of the people, and, while the state may not have any pecuniary interest in the enforcement of the act, it has a very much higher interest, and that is in the protection of the health and well being of its people. That being the case, it seemed to the court that the state, acting through the attorney general, could lawfully apply to the courts to exercise their equity powers to enjoin violations of the act.

The corporation apparently further contended that the state board of optometry had entered into some kind of an agreement with the licensed optometrist whereby the board agreed that the optometrist might render the services for which he was employed for a limited length of time. Such an agreement, the court said, would not have the effect of suspending the requirements of the optometry act. Furthermore, the agreement did not purport to authorize the corporation to practice optometry, and if it had, the agreement would have been void.

The judgment of the trial court, granting the injunction, was therefore affirmed. (*Funk Jewelry Co.* v. *State ex rel. La Prade* (Ariz.), 50 P. (2d) 945.)—*Medicolegal Abstract, Journal of the American Medical Association.*

Compensation of Physicians: Liability of Third Person for Medical Services.—The plaintiff, a physician, sued the defendant to obtain payment for medical services rendered a Negro employee of the defendant. The Negro, suffering from a gun-shot wound, was taken to a hospital owned and operated by the plaintiff. Immediately thereafter the defendant came to the hospital and, according to the plaintiff, said: "If you will go ahead and take care of the case, I will pay the bill." The testimony of several witnesses tended to corroborate the plaintiff. The defendant, however, denied that he had made the promise just noted and, from a judgment for the plaintiff, he appealed to the Supreme Court of Oklahoma.

The Supreme Court, however, believed that the evidence reasonably tended to support the verdict of the jury. In *May* v. *Roberts*, 28 Okla. 619, 115 P. 771, relied on by the court in the present case, the plaintiff, a physician, brought suit for services rendered the wife of the defendant's tenant. The defendant had requested the physician to visit the tenant's wife and told him that he would see that the bill was paid. Such evidence was held to be competent and material and to establish a primary liability not within the statute of frauds. Finding no error in the record in the present case, the Supreme Court affirmed the judgment in favor of the physician. (*Gloeckler* v. *Weedn* (Okla.), 50 P. (2d) 634.)—*Medicolegal Abstract, Journal of the American Medical Association.*

Workmen's Compensation Acts: Death from Sunstroke.—Death from exposure to the elements, including the heat of the summer and the cold of the winter, said the Supreme Court of Iowa, is not compensable if the hazard is the same to which the general public is exposed. For compensation to be recoverable for death from sunstroke, the deceased must have been subjected to a greater hazard from heat than that to which the public generally in that locality was subjected. This distinction is recognized by all the authorities. Compensation was denied in this case. (*Wax* v. *Des Moines Asphalt Paving Corporation* (Iowa), 263 N. W. 333.)—*Medicolegal Abstract, Journal of the American Medical Association.*